IN THE CLAIMS

1. (previously presented) A method of summarizing digital audio data comprising the steps of:

directly analyzing the audio data to identify a representation of the audio data having at least one calculated feature characteristic of the audio data;

classifying the audio data on the basis of the representation into a category selected from at least two categories; and

generating an acoustic signal representative of a summarization of the digital audio data, wherein the summarization is dependent on the selected category.

2. (previously presented) A method as claimed in claim 1, wherein the analyzing step further comprises segmenting audio data into segment frames, and overlapping the frames.

3. (previously presented) A method as claimed in claim 2, wherein the classifying step further comprises classifying the frames into a category by collecting training data from each frame and determining classification parameters by using a training calculation.

4. (currently amended) A method as claimed in claims 1, wherein the calculated feature comprises perceptual and subjective features related to music content.

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5.   (previously presented)   A method as claimed in claim 3, wherein the training

calculation comprises a statistical learning algorithm wherein the statistical learning

algorithm is Hidden Markov Model, Neural Network, or Support Vector Machine.

6.   (currently amended)   A method as claimed in claims 1, wherein the type of acoustic

signal is music.

7.   (currently amended)   A method as claimed in claims 1, wherein the type of acoustic

signal is vocal music or pure music.

8.   (currently amended)   A method as claimed in claims 1, wherein the calculated feature

is amplitude envelope, power spectrum or mel-frequency cepstral coefficients.

9.   (currently amended)   A method as claimed in claims 1, wherein the summarization is

generated in terms of clustered results and heuristic rules related to pure or vocal music.

10.   (currently amended)   A method as claimed in claims 1, wherein the calculated feature

relates to pure or vocal music content and is linear prediction coefficients, zero crossing rates,

or mel-frequency cepstral coefficients.

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11.   (previously presented)   An apparatus for summarizing digital audio data

comprising:

a feature extractor for receiving audio data and directly analyzing the audio data to

identify a representation of the audio data having at least one calculated feature characteristic

of the audio data;

a classifier in communication with the feature extractor for classifying the audio data

on the basis of the representation received from the feature extractor into a category selected

from at least two categories; and

a summarizer in communication with the classifier for generating an acoustic signal

representative of a summarization of the digital audio data, wherein the summarization is

dependent on the category selected by the classifier.

12.   (previously presented)   An apparatus as claimed in claim 11, further comprising

a segmentor in communication with the feature extractor for receiving an audio file and

segmenting audio data into segment frames, and overlapping the frames for the feature

extractor.

13.   (previously presented)   An apparatus as claimed in claim 12, further comprising

a classification parameter generator in communication with the classifier, wherein the

classifier classifies each of the frames into a category by collecting training data from each

frame and determining classification parameters by using a training calculation in the

classification parameter generator.

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14.   (previously presented)   An apparatus as claimed in claim 11, wherein the

calculated feature comprises perceptual and subjective features related to music content.

15.   ' (previously presented)   An apparatus as claimed in claim 11, wherein the

training calculation comprises a statistical learning algorithm wherein the statistical learning

algorithm is Hidden Markov Model, Neural Network, or Support Vector Machine.

16.   (previously presented)   An apparatus as claimed in claim 11, wherein the

acoustic signal is music.

17.   (previously presented)   An apparatus as claimed in claim 11, wherein the

acoustic signal is vocal music or pure music.

18.   (previously presented)   An apparatus as claimed in claim 11, wherein the

calculated feature is amplitude envelope, power spectrum or mel-frequency cepstral

coefficients.

19.   (previously presented)   An apparatus as claimed in claim 11, wherein the

summarizer generates the summarization in terms of clustered results and heuristic rules

related to pure or vocal music.

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20.   (previously presented)   An apparatus as claimed in claim 11, wherein the calculated feature relates to pure or vocal music content and is linear prediction coefficients, zero crossing rates, or mel-frequency.

21.   (previously presented)   .   A computer program product for summarizing digital audio data comprising a computer usable medium having computer readable program code means embodied in said medium for causing the summarizing of digital audio data, said computer program product comprising:

     a computer readable program code means for directly analyzing the audio data to identify a representation of the audio data having at least one calculated feature characteristic of the audio data;

     a computer readable program code for classifying the audio data on the basis of the representation into a category selected from at least two categories; and

     a computer readable program code for generating an acoustic signal representative of a summarization of the digital audio data, wherein the summarization is dependent on the selected category.

22.   (previously presented)   A computer program product as claimed in claim 21, wherein analyzing further comprises segmenting audio data into segment frames, and overlapping the frames.

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23.   (previously presented)   A computer program product as claimed in claim 22, wherein classifying further comprises classifying the frames into a category by collecting training data from each frame and determining classification parameters by using a training calculation.

24.   (previously presented)   A computer program product as claimed in claim 21, wherein the calculated feature comprises perceptual and subjective features related to music content.

25.   (previously presented)   A computer program product as claimed in claim 21, wherein the training calculation comprises a statistical learning algorithm wherein the statistical learning algorithm is Hidden Markov Model, Neural Network, or Support Vector Machine.

26. - 30.   (canceled)

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